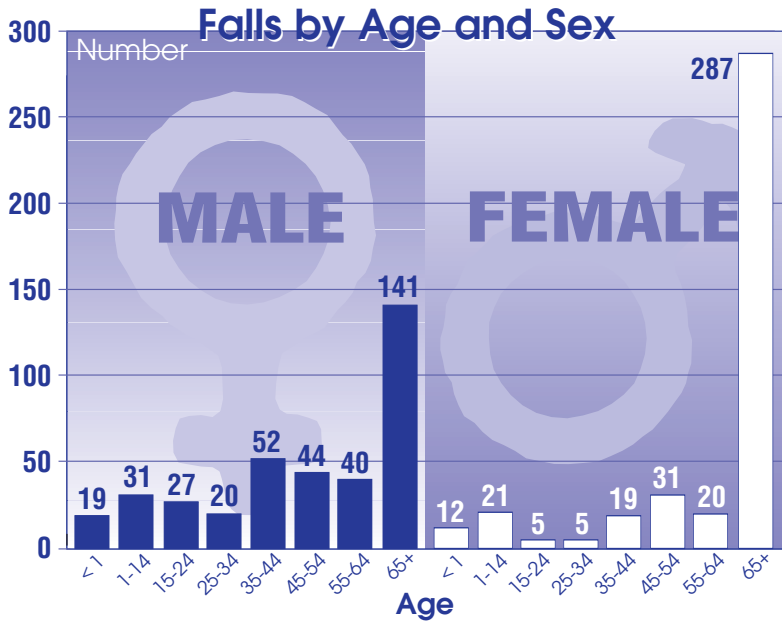
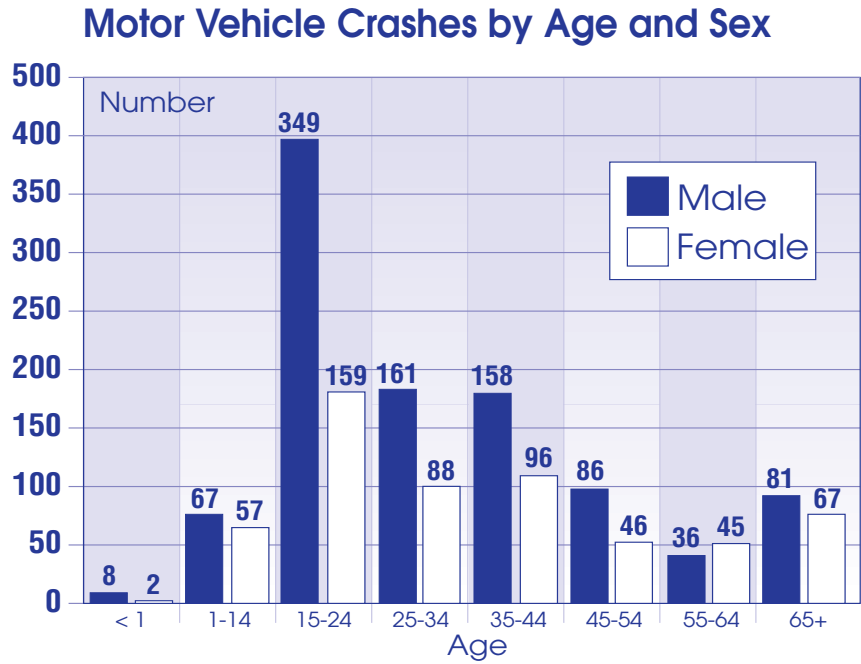


Females are less likely than males to suffer a fall related head injury for all age groups through age 64. Of the total traumatic brain injuries due to falls, 55.3 percent were from the age group 65 years old and older. Of the 400 females who suffered a head injury due to a fall, 71.8 percent were 65 years old or older, compared to 37.7 percent of the 374 males.

Approximately 5.7 percent of the accidental falls causing a head injury were work related.

Of the 946 males who were involved in a motor vehicle accident, 36.9 percent were ages 15 to 24 years compared to 17.0 percent in ages 25 to 34 years. These two age groups accounted for over half of the total motor vehicle injuries. For both males and females, there were more injuries (33.7 percent) in the 15 to 24 year age group than any other group.

Approximately 1 percent of the total motor vehicle accidents was work related. Of the total head injuries from motor vehicle traffic accidents, 7.6 percent resulted in a severe brain injury; 30.2 percent was classified as moderate; 44.9 percent was classified as mild; and the severity for 17.3 percent was undetermined.



When all cases were included, 29.5 percent of the individuals with severe brain injuries were hospitalized more than seven days, compared to 31.9 percent of the individuals with injuries considered to be moderate, and 12.0 percent for those with mild injuries. For cases where severity was undetermined, 15.1 percent were hospitalized more than seven days.

When individuals who died are excluded from the analysis, 89.1 percent of people with severe brain injuries were hospitalized more than seven days, while the percent of individuals with lesser injuries showed little change.

Approximately 56 percent of the cases with hospital stays of more than 7 days were considered to have moderate brain injuries.


The length of stay could be affected by other injuries that occurred during the accident. The severity index by itself should not be used as a predictor or indicator of length of stay.

| Severity of Injury by Length of Stay | | | | | | | | | | |
|--------------------------------------|-------|------|--------|------|----------|------|-------|------|--------------|------|
| Length of Stay | Total | Died | Severe | | Moderate | | Mild | | Undetermined | |
| | | | Total | Died | Total | Died | Total | Died | Total | Died |
| Less than 24 hrs. | 135 | 117 | 60 | 58 | 36 | 20 | 4 | 4 | 35 | 35 |
| 1 Day | 627 | 61 | 45 | 45 | 117 | 9 | 347 | 2 | 118 | 5 |
| 2 Days | 486 | 36 | 22 | 22 | 148 | 12 | 232 | 2 | 84 | 0 |
| 3 Days | 367 | 11 | 6 | 6 | 134 | 5 | 159 | 0 | 68 | 0 |
| 4 Days | 235 | 8 | 3 | 3 | 103 | 4 | 98 | 0 | 31 | 1 |
| 5 Days | 188 | 8 | 4 | 3 | 90 | 3 | 63 | 1 | 31 | 1 |
| 6 Days | 143 | 10 | 7 | 7 | 63 | 1 | 49 | 0 | 24 | 2 |
| 7 Days | 105 | 6 | 6 | 3 | 52 | 3 | 28 | 0 | 19 | 0 |
| 8 to 14 Days | 351 | 34 | 32 | 14 | 188 | 15 | 87 | 3 | 44 | 2 |
| 15 to 21 Days | 129 | 8 | 13 | 1 | 75 | 6 | 25 | 0 | 16 | 1 |
| 22 to 28 Days | 70 | 6 | 6 | 0 | 49 | 3 | 9 | 1 | 6 | 2 |
| 29 Days or more | 69 | 3 | 13 | 0 | 36 | 2 | 13 | 1 | 7 | 0 |
| TOTAL | 2905 | 308 | 217 | 162 | 1091 | 83 | 1114 | 14 | 483 | 49 |

Tennessee Traumatic Brain Injury Newsletter was published by the Tennessee department of Health, Health Statistics and Research, Cordell Hull Building, Nashville, Tennessee 37247

Marguerite Lewis, Director

For additional information please contact:
Glenda Polk, telephone (615) 532-7890

 Tennessee Department of Health. Authorization No. 343115, 464 copies, June 2001. This public document was promulgated at a cost of \$1.08 per copy. (06-01)

Tennessee Department of Health
Health Statistics and Research
Traumatic Brain Injury Registry
Cordell Hull Building, 4th Floor
425 5th Avenue North
Nashville, TN 37247

Tennessee Traumatic Brain Injury

2001
January - June

A traumatic brain injury is defined as an acquired injury to the brain caused by an external physical force that may result in total or partial disability or impairment.

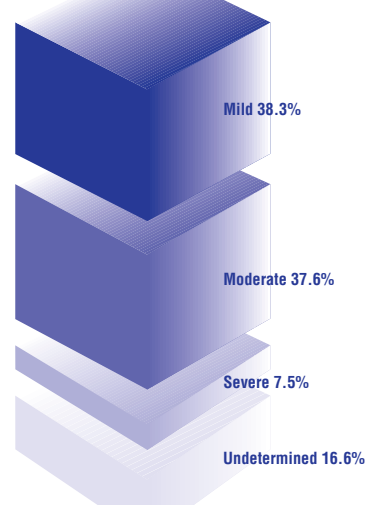
Tennessee Department of Health
Bureau of Policy Planning and Assessment
Health Statistics and Research
January - June 2001

Introduction

The enabling legislation establishing the traumatic brain injury registry was signed into law in May, 1993. As written, the initial legislation prohibited health care providers from reporting case information without written consent of the patient. An amendment was passed in May, 1996 resolving this issue. Data collection officially began with patients discharged during 1996. The hospitals report information on inpatients, with specific ICD-9 CM diagnosis codes, whose admission and discharge dates are different (where length of stay was 24 hours or more) and for those individuals who died. Patients seen in emergency rooms who were sent home the same day or length of stay was less than 24 hours are not included in the registry.

A traumatic brain injury is defined as an acquired injury to the brain caused by an external physical force that may result in total or partial disability or impairment.

Injuries by Severity



Approximately 75 percent of the patients with a severe traumatic brain injury died. This category represents 52.6 percent of the total patients that died.

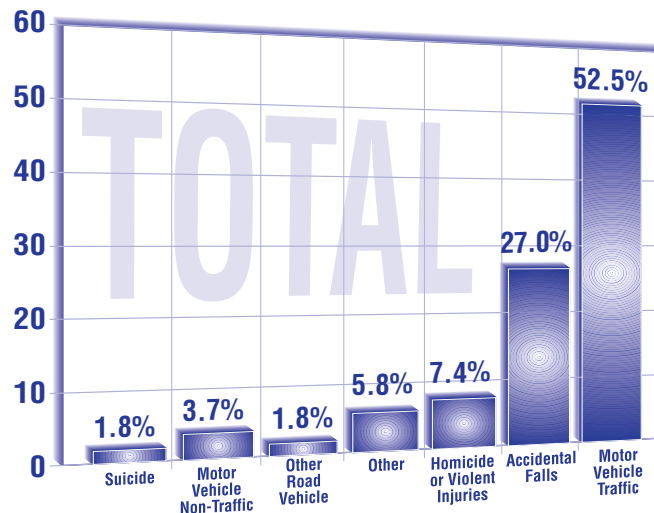
For patients with a moderate brain injury (excluding deaths) 69.1 percent were discharged for home care requiring non-skilled or some degree of skilled assistance. Approximately 10.5 percent were discharged to residential facilities with or without skilled nursing services and 16.2 percent to an inpatient rehabilitation facility.

Excluding deaths, 87.6 percent of the patients with a mild brain injury were discharged to home care requiring non-skilled or some degree of skilled assistance.

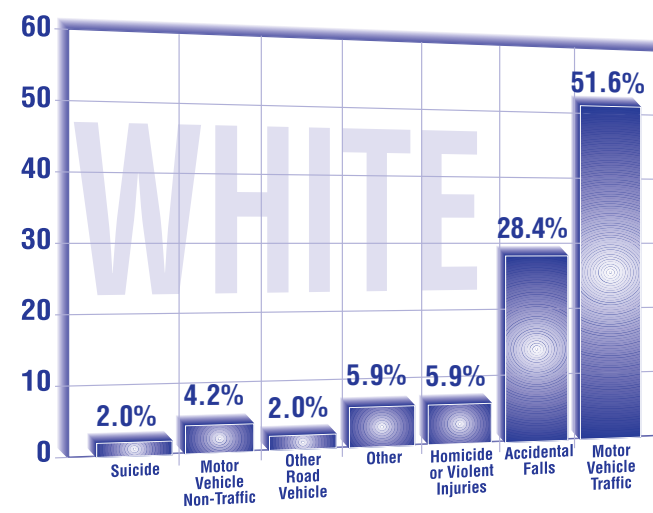
Hospital Discharge Status by Severity of Injury

| Discharge Status | Total | Severe | Moderate | Mild | Undetermined |
|---|-------|--------|----------|------|--------------|
| Transferred to acute care hospital | 32 | 2 | 15 | 9 | 6 |
| Home - self care | 1751 | 7 | 576 | 841 | 327 |
| Home - requiring non-skilled assistance | 175 | 1 | 68 | 95 | 11 |
| Home health services or out patient rehab | 109 | 2 | 53 | 28 | 26 |
| Residential facility w/o skilled nursing | 23 | 2 | 13 | 4 | 4 |
| Residential facility with skilled nursing | 171 | 10 | 93 | 41 | 27 |
| Inpatient rehab facility | 287 | 31 | 163 | 66 | 27 |
| Patient died | 308 | 162 | 83 | 14 | 49 |
| Other | 49 | 0 | 27 | 16 | 6 |
| Total | 2905 | 217 | 1091 | 1114 | 483 |

An external cause of injury permits the classification of environmental events, circumstances, and the conditions as the cause of injury. An external cause of injury was reported for 98.8% (2,870) of the 2,905 persons treated in Tennessee. The data presented by race represents 2,443 white and 274 black cases.

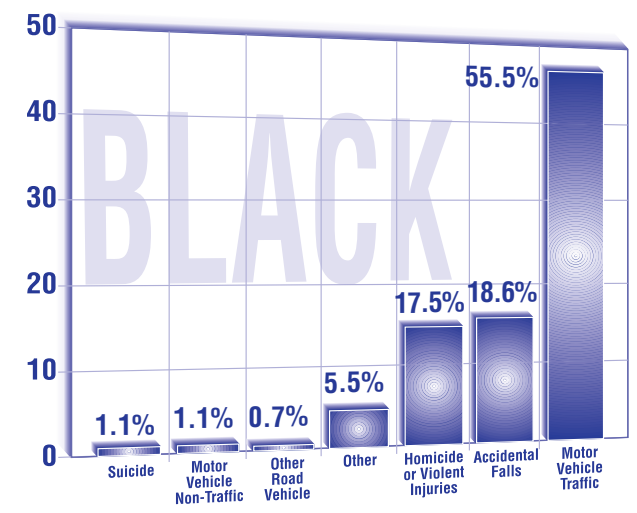


The leading cause of traumatic brain injuries, 52.5 percent (includes only cases with external cause of injury reported) was motor vehicle traffic accidents. Accidental falls accounted for 27.0 percent, homicide or violent deaths accounted for 7.4 percent injuries, and other accidents for 5.8 percent of the total.



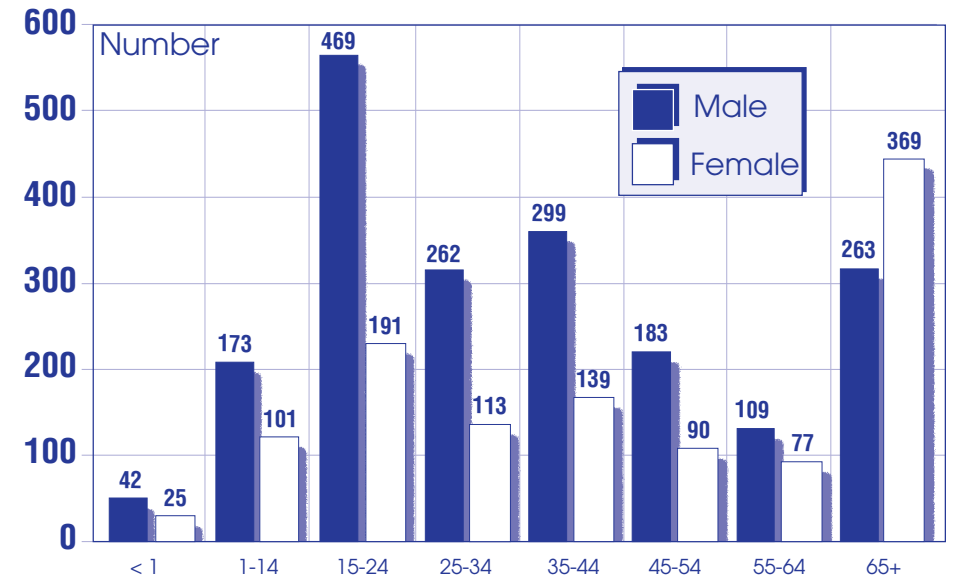
For whites, the leading cause was motor vehicle traffic accidents with 51.6 percent. The second leading cause of injury was accidental falls with 28.4 percent. Homicide or violent injuries and other accidents tied for the third leading cause of head injury in whites at 5.9 percent.

The leading cause of head injury for blacks (55.5 percent) was motor vehicle traffic accidents. Accidental falls were the second leading cause of injury with 18.6 percent. The third leading cause of injury for blacks was homicide or violent injuries with 17.5 percent.



Injuries by Age and Sex

For all ages except 65 and older, males are more likely to suffer a head injury than females. This is primarily due to traffic accidents. At age 65 and older, females experience more injuries due to falls. Further analysis of the data revealed that 29.9 percent of the (67) patients less than one year of age suffered a brain injury due to homicide or an injury purposely inflicted by other persons.



Based on the ICD-9-CM diagnosis codes, 38.3 percent of all patients experienced a “mild” injury. The injuries considered “moderate” made up 37.6 percent while 7.5 percent were considered “severe”. Four hundred eighty-three (483) cases, or 16.6 percent had an insufficient clinical description and the severity for these cases was undetermined.

The severity index is based on the clinical diagnosis of the injury.

Approximately 78 percent of the patients (excluding the patients that died) were discharged for home care requiring non-skilled or some degree of skilled assistance. This indicates a tremendous burden on the families and communities of the brain injured survivors.